

## CLAIMS:

1. Method for fabrication of an electric incandescent lamp, comprising the steps of:
  - coiling a first coil of a wire having diameter  $d$  around a first mandrel having diameter  $M_1$  with a first pitch and a first number of turns;
  - winding said first coil around a second mandrel having diameter  $M_2$  with a second pitch and a second number of turns to form a coiled coil filament;
  - arranging means for electrically and structurally mounting a filament within a light permeable envelope;
  - arranging the coiled coil filament within the envelope, coupled to and supported by the means for mounting;
  - hermetically sealing said envelope, characterized by heating the coiled coil filament above its recrystallization temperature within the envelope for recrystallization of said coiled coil.
- 15 2. Method according to claim 1, the filament wire having diameter  $d$ , wherein the primary and secondary winding have primary and secondary mandrel-to-wire ratios  $Y_1$  and  $Y_2$ , wherein:
$$Y_1 = M_1/d \geq 3; \text{ and}$$
$$Y_2 = M_2/(M_1 + 2d) \geq 3.$$
- 20 3. Method according to claim 1 or 2, comprising the further steps of:
  - annealing the first coil at a first annealing temperature after coiling thereof;
  - cleaning the coiled coil filament in a wet gas;
  - heat treating the coiled coil filament in a dry gas atmosphere to release stresses therein;
  - removing the first mandrel by inserting the coiled coil filament in acid.
- 25 4. Method according to claim 1 or 3, wherein  $Y_1 = M_1/d > 4$  and  $Y_2 = M_2/(M_1+2d) > 4$ .

5. Method according to claim 1 or 4, wherein  $Y1 \leq 8$  and/or  $Y2 \leq 8$ .
6. Electric incandescent lamp, comprising:
  - 5 - a hermetically sealed light permeable envelope;
  - means for electrically and structurally mounting a filament within the envelope; and
  - a coiled coil filament coupled to and supported by the means for mounting, comprising a filament wire having diameter  $d$ , wherein the primary and secondary winding
- 10 have primary and secondary mandrel-wire ratios  $Y1$  and  $Y2$ , wherein:
$$Y1 = M1/d > 4; \text{ and}$$
$$Y2 = M2/(M1 + 2d) > 4,$$
wherein  $M1$  is the primary mandrel diameter and  $M2$  is the secondary mandrel diameter.
- 15 7. Lamp according to claim 6, wherein  $Y1 \leq 8$  and/or  $Y2 \leq 8$ .
8. Lamp according to claim 6 or 7, wherein  $Y1 \geq 4.5$  and/or  $Y2 \geq 4.5$ .
9. Lamp according to claim 6, wherein  $Y1 \leq 6$  and/or  $Y2 \leq 6$ .
- 20 10. Lamp according to any of the previous claims, wherein the envelope is filled with a gas comprising halogen.
11. Lamp according to any of the previous claims, wherein the wire is a tungsten  
25 wire.